

Graduate Certificate Program in Nuclear Power Engineering

Executive Summary

The objective of this project is to develop an innovative set of nine graduate courses in nuclear power engineering for engineering students in traditional disciplines. To earn the certificate, students will complete five of these courses. Included in the set is a five-course sequence specifically focused on safe nuclear plant operations. Students from any of the University of Pittsburgh's School of Engineering's seven MS degree programs may complete the certificate as part of their master's degree program. A major strength of this program is the integration of facilities and resources from the local nuclear power community. A distance education component is being developed to support the delivery of coursework to other educational institutions, and nuclear vendors and utilities. If future NRC funding support is forthcoming, a course in nuclear security will be developed in conjunction with the university's Center for National Preparedness, and a course in Nuclear Environmental Issues will be developed in conjunction with the School of Engineering's Mascaro Sustainability Initiative. These later courses will cover such topics as non-proliferation, nuclear security, and environmental technology.

This project has the following benefits that promote workforce growth and improvement for the commercial nuclear power industry:

- It will provide a special and unique focus on safe commercial nuclear reactor plant operations. Coursework will be developed with input from program constituencies and will focus on major missing competencies in employees identified by the constituencies.
- It will exploit the important resources—staff, facilities, models, and equipment—available from constituencies in Southwestern Pennsylvania.
- Through distance education facilities, the program will reach students many of whom are engineers working in the nuclear profession without the benefit of formal educational courses in nuclear engineering.